3. Check the level of fundus: The dai/FHW with the help of the LHV can calculate the estimated month of delivery from this and record it on the antenatal card. In this way unreported births can be followed up by the BHU staff.

4. Check the position and number of the foetus: In the last month of pregnancy, the position of the foetus should be checked to identify any abnormal lies like transverse, oblique or a breech in a primigravida or twins. These abnormal cases should be checked by the LHV to confirm the position and then referred to hospital.

SUMMARY OF RESPONSIBILITIES

	Community based FHW	BHU based Dai/ORW	LHV
Obstetric history	✓	✓	✓
Breast check	✓	✓	✓
Oedema	✓	✓	✓
Fundal height and estimated date of delivery		✓	✓
Position of foetus and number	✓	✓	✓
Foetal movements	✓	✓	✓
Blood Pressure			✓
Urine test			✓
Referral of risk cases	✓	✓	✓

3. Care during Labour and Delivery

3.1 Objectives of care during labour and delivery

1. Delivery by a trained female health worker.
2. Referral of high risk cases.
3. Appropriate, safe management of labour and delivery.
4. Appropriate management for heavy bleeding after delivery.

3.2 Delivery by a trained female health worker

3.2.1 Every woman should be delivered by a trained female health worker (FHW). If a FHW is not available a sterile razor blade and ligature cord of cotton should be made available for each delivery as a minimum requirement. This may be given by the BHU staff to the mother in the ninth month of pregnancy or purchased by the family.

3.2.2 When the FHW is called for delivery she should take the history and examine the mother as at the antenatal check.

3.3 Referral of high risk cases

3.3.1 Women with the following problems should be referred immediately:

- Past history of caesarean section
- Past history of cardiac disease
- History of bleeding in the last half of pregnancy
- Oblique or transverse lie
- Breech presentation in a primigravida
- Continuous abdominal pain
- Fits
- Vomiting plus oedema
- Cord, leg or hand presentation
- Fever

3.4 Appropriate management of labour and delivery

3.4.1 As prolonged or obstructed labour is a common cause of maternal death, the health worker must be able to make a diagnosis of true or false labour, and ascertain when true labour began. True labour is regular pains <u>plus</u> a show of blood and mucus <u>or</u> regular pains <u>plus</u> rupture of membranes.

3.4.2 During labour the health worker should ask the mother if fetal movements are present to determine if the baby is dead or alive. If the child appears to be dead the mother should be informed and the health worker may proceed with delivery if the mother is otherwise well. If the mother is ill (e.g. fever, vaginal bleeding) then she should be referred to hospital.

3.4.3 During labour the mother should be encouraged to walk around and to empty her bladder frequently.

3.4.4 The mother may be encouraged to drink sweet tea during the early stages of labour. However in established labour, absorption from the bowel stops and excessive drinking will cause vomiting.

3.4.5 Any woman who labours for more than 24 hours should be referred to hospital.

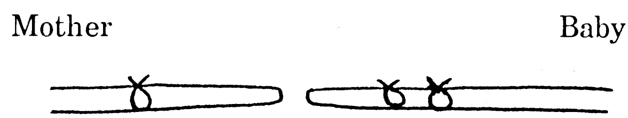
3.4.6 The health worker should encourage the mother with pains to push only if the mother has the urge to push. Pushing during early labour (when the cervix is not fully dilated) causes tiredness of the mother and edema of the cervix which may slow labour.

3.4.7 NO injections should be given during labour and intravenous injections or fluids should not be used for home deliveries in the camps. Any at risk case should be referred.

3.4.8 NO internal examinations should be done unless sterile gloves are available and should only be done by a qualified LHV, midwife or M.O.

3.4.9 Equipment for delivery should be sterile. A plastic sheet should be placed under the mother. The hands of the attendant must be clean.

3.4.10 After delivery the cord should be tied 3 times and then cut with a sterile cutter so that 2 ties lie on the baby's side of the cord and one on the mother's side.



3.4.11. After delivery the placenta should be examined for completeness. If the placenta is not complete the mother should be observed for bleeding. If bleeding is heavy the mother should be referred to the BHU where an IMI injection of ergometrine should be given. Referral to a hospital for manual removal of the placenta should occur if bleeding continues.

3.4.12. The uterine fundus should be rubbed after the placenta is expelled. No ergometrine tablet or injection should be given routinely except by the LHV or M.O. Abuse of ergometrine and oxytocin injections is common among Afghan refugees and use of these injections should be discouraged among underqualified staff.

3.4.13. Immediately after birth mothers should be encouraged to put the baby to the breast. This will help contract the uterus and decrease bleeding. The baby should be washed, the cord checked and the child wrapped in clean cloth.

3.5 Appropriate management for heavy bleeding after delivery

3.5.1 Heavy bleeding after delivery is bleeding more than 600 mls (2 hands full) after delivery. It is frequently related to a retained placenta. Normally the placenta should be delivered within a half hour of birth of the baby. Heavy bleeding after delivery is a major cause of maternal death. Prompt treatment and referral should be emphasized.

If the placenta is retained or blood loss is more than 600 mls then the health worker should massage the uterine fundus, put the baby to the breast, and send for help from the BHU. The LHV may give ergometrine 0.5 mg (1 ml) IMI and if post partum hemorrhage is not controlled or placenta is not delivered in a further 1/2 hour, then the patient should be referred to hospital. If the pulse is more than 120/min or there are signs of shock then an I.V. infusion of normal saline or plasma expander may be started at the BHU and the ergometrine injection repeated before referral to hospital.

4. Post-natal Care

4.1 This section contains objectives of post natal care, information on breast feeding, uterine infection and postpartum bleeding and action to be taken at the post natal check.

4.2 Objectives of post natal care

All women to have a post natal check after delivery at which time:

-- mother is checked for any problems or complications.

-- infant is checked, weighed and growth chart started.

-- health education is given particularly on breast feeding, child growth and diet.

-- iron tablets for mother.

-- Vit A for mother and infant.

4.3 The postnatal check

1. **DOES THE MOTHER HAVE A TEMPERATURE?**

If the mother has a temperature, then she should refer the mother to the BHU. She should be checked for signs of:

-- uterine infection (refer below)
-- breast infection (refer section 4.6.8.)
-- urine infection (refer section 2.4.5.)

and treated as indicated.

Uterine Infection

Uterine infection is present when the mother has fever, abdominal pain and offensive lochia. Postpartum bleeding may be heavier than usual. The treatment is **ampicillin** (250mg four times/day) plus **metronidazole** (200mg three times/day) for ten days.

2. **DOES THE BABY HAVE A TEMPERATURE?**

If the baby has a temperature, then the child should be referred to the MO for physical examination and treatment.

3. **ARE THERE ANY PROBLEMS WITH BREAST FEEDING?**
(Refer section 4.6.)

4. **IS THE MOTHER TAKING IRON TABLETS?**

Iron tablets should be given to the mother for at least 1 month after delivery. If the mother was clinically anemic, longer term follow up and treatment is necessary.

5. **DOES THE MOTHER HAVE BLEEDING?**

Postpartum bleeding is abnormal if there are clots after the second day or bright bleeding after the fifth day. The most common causes are retained parts of the placenta or uterine infection. Heavy postpartum bleeding usually requires D/C and these cases are best treated by referral to hospital. If signs of infection are present then antibiotics may be given and the patient referred.

4.3.2. During the post natal check, the following physical examination should be done.

1. Mother:
   -- check for temperature by feeling the forehead
   -- check breasts for redness, swelling or pus from the nipple.
   -- check abdomen for tenderness
   -- check vaginal blood loss for amount and offensiveness.

2. Baby:
   -- check for temperature by feeling the forehead
   -- check the umbilical cord for redness or pus.

Any abnormalities should be referred to the BHU for treatment.

4.4 Checking the infant

The post-natal visit is a good time for the child to be registered in the child care clinic, be weighed, the mother to receive a growth chart along with the relevant health education and the infant to receive oral polio and BCG vaccine or arrangements made for the vaccinator to visit the home to give the vaccines.

An examination of the infant should be made by the LHV.

4.5 Health education

4.5.1 Specific advice should be given on the following:

1. Personal cleanliness: The mother should be advised to change pads and wash the vaginal area with salt water three or four times per day. Advice should also be given to wash the breasts and particularly nipples at least daily.

2. Diet: The mother should eat and drink more while breast feeding.

3. Breast feeding: (refer following section 4.6.)

The prime messages for health education are:

1. Breast-milk alone is the best possible food and drink for a baby in the first 4 months of life.

2. Babies should start to breast feed immediately after birth.

3. Breast feeding should continue up to 2 years of age.

4. Never use bottles as bottle feeding can lead to serious illness and death.

5. Continue breast feeding during the next pregnancy.

6 A mother breast feeding should eat for two.

7. Breast feeding should be stopped slowly.

4.6 Breast feeding

4.6.1 Breast feeding is the normal practice in the Afghan community and it is important that the practice be supported and actively promoted by health personnel particularly at antenatal and post-natal visits. The superiority of breast milk over any other kind of milk should be stressed. For the prime messages on breast feeding refer to section 4.5.

4.6.2 Breast feeding should continue up to 2 years of age. It is very important for growth in the second year of life.

4.6.3. Breast feeding should commence immediately after birth i.e. within 1 or 2 hours. This stimulates hormones to be released which cause the uterus to contract and reduce bleeding.

4.6.4. Colostrum helps to prevent infections and provides energy for the baby.

4.6.5. The mother should <u>exclusively</u> breast feed the baby up to 4 months of age unless the baby becomes sick when it may require extra fluids which should be given with a cup and spoon. But otherwise providing extra fluid will increase the risk of the baby having diarrhoea through drinking contaminated fluids. If the baby is allowed to breast feed on demand, the breast milk will provide adequate fluid for the baby up to 4 months of age even during the hottest months of summer.

4.6.6 If the baby or the mother is ill, breast feeding should be continued particularly if the baby has diarrhoea.

4.6.7 If the breasts become engorged and the infant is unable to feed then the breast milk may be expressed and given by clean cup and spoon to the baby.

4.6.8 Breast infection is present when part of the breast becomes red, hard

and painful. Sometimes pus may come from the nipple. **Erythromycin** 250mg 4 times/day for 10 days should be prescribed. Breast feeding should continue during breast infection unless pus is coming from the nipple, when the mother should express the milk and discard it and feed the child from the other breast.

4.6.9 While the mother is breast feeding, she is making 500-700 mls of milk per day. She should be advised to eat and drink more during this time.

4.6.10 If the mother becomes pregnant then breast feeding should continue. The belief that breast feeding during pregnancy causes diarrhoea in the child should be discouraged. Although the quantity of milk may decrease, the quality is still good. Additional fluids and foods should be introduced to the baby and the mother should be advised to take more food and fluids also. It is very important not to stop breast feeding suddenly.

4.7. Iron tablets for mother

4.7.1 Ferrous sulphate should be taken daily for at least the first month of breast feeding.

4.7.2 Breast feeding helps in the spacing of children by delaying the onset of the next pregnancy.

4.8 Vitamin A

The mother should be given vitamin A 200,000 I.U. (1 capsule) within 2 months of delivery. The infant should be given 1 dose of vitamin A 100,000 I.U. (half capsule) after the first 6 months of life (refer section III, 9. Page 42).

If the mother is seen more than 2 months after delivery, then the full dose of vitamin A should not be given. Vitamin A can cause fetal abnormalities if taken by pregnant women. WHO recommends for women of child bearing age the dose of vitamin A should not exceed 10,000 I.U. except when given within two months of delivery when there is no risk of the woman being pregnant.

5. Child Spacing

5.1 Spacing of births results in the mother being able to provide each child with more care and is associated with improvement in the health of the

mother and the child. Infant mortality rates improve markedly with increased child spacing as do maternal morbidity and mortality rates.

Table Effect of birth spacing on infant deaths

Spacing between births:	Infant deaths first 28 days/1000 births	Infant deaths first year/1000 births
less than 1 year	171	258
1 year -- 2 years	101	178
2 years -- 3 years	58	110

Source: Cleland J. and Sathan Z. "The effect of birth spacing on childhood mortality in Pakistan", Population Studies, London 1985.

5.2 Breast feeding up to the age of 2 years provides a safe, culturally appropriate method of child spacing.

5.3 If contraceptive advice is requested by the mother or indicated on medical grounds, then advice should be given. The husband should be consulted and contraceptives should not be given without his permission.

5.4 Depoprovera provides a convenient, safe and acceptable method. It is over 90% effective. Depoprovera can cause irregular periods; occasionally the periods stop completely for some months and sometimes bleeding may actually increase.

5.5 Intrauterine contraceptive devices are 97% effective as a contraceptive. They require insertion by skilled staff. They usually cause slightly heavier periods which are also more painful. There is a risk of uterine infection.

5.6 "Combined" (oestrogen and progesterone) oral pills are over 99% effective as contraceptives but they must be taken regularly. They should not be used by breast feeding mothers as the oestrogen will decrease the breast milk.

5.7 "Progesterone only" oral pills are 97% effective if taken every day. They are safe to use during breast feeding.

Both types of oral pills are probably not suitable for Afghan refugees because they need good compliance, resupply and supervision.

5.8 Condoms are about 95% effective. They require strong motivation from the man.

5.9 Spermicidal creams are 50-60% effective.

II. FEMALE HEALTH WORKERS (F.H.Ws.)

1. Introduction

The ability to provide adequate maternal and child health care to the refugee community has been restricted largely because of limited numbers of female health staff, but also because of the Afghan women's limited mobility and often their restricted access to the health services provided. Female refugee community health workers can substantially improve maternal and child health care in the community in a manner which is acceptable to the community.

The training of Afghan women as female health workers (FHWs) is proceeding in the three provinces. In the earliest stages of the programme, the training concentrated on maternal care and safe birthing practices hence the title 'Traditional Birth Attendant'. The training has recently been expanded to include child care and other community health related subjects, hence the change in title: Female Health Worker (F.H.W.)

2. Role of FHW

The FHW will be trained as a health care deliverer and as a teacher of other women within her family kinship group. Her role will be to;

-- Motivate pregnant women within her family group to attend the BHU for antenatal care.

-- Regularly visit the pregnant women in her family group to advise on health care during pregnancy.

-- Encourage the women to be immunized against Tetanus.

-- Recognize early signs of complications in pregnancy, labour and after delivery and refer to the BHU LHV or female outreach worker as appropriate and necessary.

-- Manage any complications until referral is possible.

-- Improve care of the mother and baby after delivery and undertake regular home visits to them.

I. MATERNAL HEALTH

1. Care of Women of Child Bearing Age

Afghan women sometimes die or become seriously ill as a result of pregnancy or giving birth. Both repeated pregnancies and a short interval between births increase the risk of death or serious illness. Anaemia is very common amongst Afghan women and it is made worse by pregnancy and child birth. It is a major contributing factor to the high risk of death and serious illness.

Women who become ill during pregnancy or who are in a poor nutritional state are likely to give birth to infants with a low birth weight i.e. less than 2.5 kgs at birth. These infants are much more likely to die before their first birthday than an infant with a birth weight over 2.5 kgs and their growth, both physical and mental, is likely to be poor.

Five interventions can greatly improve the health of Afghan women of child bearing age between (15-45) years and their children.

i) Prophylaxis and Treatment of Anaemia

Over 60% of Afghan women are anemic. Complications during pregnancy and delivery are more common in anemic women. Iron and folic acid supplements should be given to all women during pregnancy and early lactation.

ii) Prevention of Tetanus

Neonatal tetanus is responsible for about one third of neonatal deaths among Afghan refugees. Neonatal and maternal tetanus may be prevented by giving tetanus toxoid to all women of child bearing age and by training of female health workers to improve birth practices.

iii) Improve Nutrition

Women should be advised to eat an adequate, balanced diet and encouraged to eat foods rich in iron.

iv) Supervised Delivery

A trained birth attendant should be present to supervise every delivery

- Act as a health educator and motivator for: immunization of children under 2 years of age, personal hygiene and environmental sanitation.

- Manage and give advice on common conditions such as diarrhoea, fever and respiratory infections and refer when necessary to the BHU.

- Share her new skills and knowledge wherever possible with other women.

3. Motivation of community

Before a programme is introduced, the leaders of the community should be consulted, with the programme explained to them in detail. It is essential that their active support is obtained prior to starting a programme. The leaders should also be made aware that they have a responsibility in ensuring the effectiveness of the programme. The RV administration staff should be informed also of the programme and their support obtained. BHU staff should be involved as much as possible in the programme.

The voluntary nature of the FHW programme should be emphasized from the beginning (refer 10. Role of incentives).

4. Selection

Motivation and selection of women for training should be done as much as possible by BHU staff. Where male community health workers (CHWs) and community health supervisors (CHSs) operate they are particularly effective in recruiting women. Indeed establishing and running a FHW programme has been found to be much easier in those RVs where a male CHW programme has already been operating. Women should be selected who are active and mobile with access to a number of families (5 or more families) outside their own compound. Older women who have already gained experience in delivering births are preferred although a mother with no prior experience is acceptable. In selecting women consideration should be given to providing coverage to all geographic areas of the refugee village.

5. Number of FHWs

The limiting factors in the number of FHWs to be trained is the number of BHU staff to provide supervision. One supervisory BHU staff member

can only supervise 25-30 women on a regular basis.

This number of women, 25 to 30, can provide a solid basis for a community oriented MCH programme. If more than one supervisory female is employed, then the number of FHWs can increase. However, it is essential that regular contact be maintained by BHU staff with all FHWs trained.

6. **Site and method of training**

Training should occur in private homes with no more than 12 women in a group. The training session should last 2 hours and the course should extend for at least 20 sessions. Informal teaching methods should be used which include practical demonstrations, questions and answer, discussion, role plays and the use of appropriate visual aids. As most of the women are illiterate, daily revision and active participation is needed keeping the sessions as practical as possible. Formal lecture style teaching should be avoided. (Refer health education guidelines for further details.)

BHU female staff should be encouraged to attend the training as much as possible and should be familiar with the syllabus. This is important since BHU staff will be responsible for integration of FHWs into the primary health care system and supervision of FHWs after training is completed.

7. **Training content**

The syllabus should include the following topics:

1. Normal pregnancy
2. Detection and referral of high risk pregnancies
3. Cause of disease, hygiene and hand washing
4. The prevention of tetanus
5. Antenatal care
6. Normal labour
7. Abnormal labour: detection and referral of high risk cases
8. Normal delivery, cord care and care of baby
9. Abnormal delivery: breech, cord around neck, resuscitation of baby, retained placenta and heavy bleeding
10. Postnatal care
11. Breast feeding
12. Infant feeding
13. Care of the sick child: diarrhoea, fever and acute respiratory infections
14. Vaccinations

15. Reporting, resupply and link to the BHU.

These topics are the most important topics which should be included as a minimum in the initial training course. Additional topics can be included in the training course or taught later to the FHWs. These topics are:

Birth spacing, tuberculosis, malaria, environmental sanitation, disabilities, first aid, preparing for repatriation.

A standardized training package has been prepared which consists of a manual, lesson plans and suggestions for visual aids. The course is designed to be flexible with agencies able to adapt it to their own needs and circumstances.

8. Assessment of Training

The FHWs should be assessed continually throughout the training and then given a final assessment at the completion of training. A certificate is then issued by the agency responsible for training.

9. FHW Kit

9.1 A kit is given to each FHW during or at the completion of the training. Some items from the kit, namely razor blades, thread and cotton wool are resupplied regularly.

9.2 Minimum requirements for FHW kit are:

1. Plastic sheet
2.* Soap/soap box
3. Nail brush
4.* Razor blades
5.* Thread to tie cord
6. 1 liter metal pot for sterilizing with lid
7. Equipment for home demonstration of O.R.T.
8. 5 large cloth perineal pads
9. Four pieces of cloth to clean baby's eyes, nose, mouth and cord.
10. Plastic apron.
11. Shoulder bag for carrying equipment.

8.3 Additional items which may be provided:

1. Nail cutters

2.* Cotton wool
3. Flip charts and posters for health education
4. Report forms

*Items which are resupplied.

10. Integration into the BHU MCH programme

10.1 Contact must be maintained on regular 1 to 2 monthly basis between the FHWs and BHU staff. The aims of such a meeting which will take place in a private house include the following:

a) Reporting of births including names of women who delivered so that follow up for EPI, growth promotion for baby and post natal care for women may be organized.
b) Discussion of problems occurring during the month.
c) Feedback on cases referred during the month.
d) Resupply of kit.
e) Check of kit box every 3-6 months.

Revision of topics covered during training should occur and may be included at regular monthly meeting or be rescheduled at a different time.

The supervisor of the FHWs should visit each FHW in her home at least once a month for informal discussion.

10.2 A record of the FHWs should be kept at the BHU and updated regularly.

11. Role of incentives

Incentives are important for the motivation of FHWs. In the community, a system of local payment is normal and should not be discouraged. The FHWs and their families should be given recognition by RV administration officials and BHU staff as occurs with male CHWs. Incentives in the form of blankets, chadars and cloth, if available, are also very worthwhile.

Financial payments to the FHWs by a health agency have not been found to be a motivating factor. The expectations of the workers are raised and disruption of the traditional system of payment occurs.

12. Repatriation/no referral services

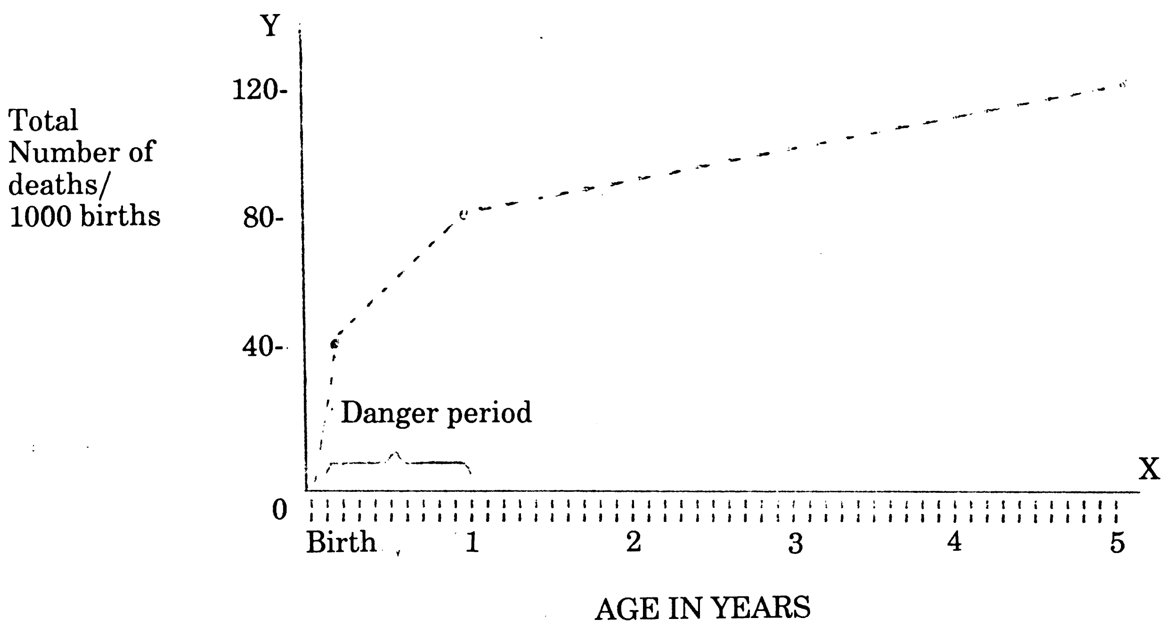
Additional topics in the curriculum can be taught to selected FHWs to prepare them for repatriation and a role in Afghanistan where support from trained health personnel may be less. The topics would include instruction on a small number of medicines like ergometrine and paracetamol.

III. CHILD CARE

1. Introduction

1.1 For every 1,000 infants born to Afghan refugees in Pakistan, approximately 40 will die before reaching 1 month of age, 13 of these deaths will be due to neonatal tetanus; another 40 infants will die before reaching their first birthday and another 40 will die before reaching their fifth birthday. Diarrhoea will be associated with approximately 35% of all the deaths from birth to 5 years of age. Malnutrition and low birth weight will be significant contributing factors. Measles will still account for a significant percentage of deaths in unimmunized children.

Graph: Number of deaths for age of child



1.2 Major causes of childhood deaths

Based on the CDC surveys of 1984, 1985 and 1986, the major causes of childhood deaths from birth to 5 years of age in Afghan refugee children are:

-- Diarrhoea and dehydration
-- Neonatal tetanus
-- Acute respiratory infections
-- Measles and other vaccine preventable disease

2. Purpose of Child Care Clinics

Child care clinics provide a service with the aim of monitoring and promoting the health of children through:

1. Regular assessment of the growth of the child (growth monitoring).
2. Giving health education to mothers on breast feeding, weaning foods and feeding practices (growth promotion), control of diarrhoeal diseases, vaccination, acute respiratory infections and hygiene.
3. Providing advice or treatment when problems arise (e.g. illness) so that the complications of poor growth or malnutrition do not occur.
4. Assisting with the rehabilitation of children with growth failure or established malnutrition.

It should be emphasized that child care clinics are primarily a preventive activity. The aim is to register the child while he or she is healthy and before any problems begin and then provide regular follow up in order to maintain good health [Refer 6.2. Page 34 for activities of child care clinics.].

3. Factors Affecting Growth

3.1 Introduction

Growth is affected by a variety of factors, including the following:

1. Breast feeding
2. Weaning and feeding practices
3. Illness

Among Afghan refugee children poor feeding practices and illness are the most common causes of poor growth and malnutrition. Often more than one factor may be involved. A typical example would be a 10 month old child who has been given few weaning foods and whose growth is poor gets measles complicated by diarrhoea. The mother withholds food and the child becomes

frankly malnourished.

Lack of food in the household is an uncommon cause of poor growth in the Afghan refugee community.

3.2 Breast feeding

Breast milk is the most important food in the first year of life for the child and continues to be very important in the second year of life.

During the first four months of life breast feeding should be exclusive and by itself will provide all the nutritional requirements of the child.

If the real mother is dead, absent or unable to breast feed, every effort should be made to find a relative or friend who is willing to nurse the baby.

<u>Baby bottles should never be used.</u> In the refugee camps it is impossible to keep them clean. The milk from baby bottles will be contaminated.

Mothers have great difficulty in reconstituting powdered milk in the correct proportions. Often the mother will over dilute the milk with water in order to save money. This milk will have little nutritional value. Under diluted milk has a high concentration of sodium and can cause hypernatraemia.

If a child for any reason cannot be breast fed, he or she should be treated as being at very high risk. The use of artificial milk in early life should be considered a higher risk to the child than all others.

Advice for mothers with breast feeding problems is included in section I 4.6. page 16.

Children should be admitted to the child care clinic at the post natal check and advice can be given to the mother at this time about breast feeding.

3.3 Weaning and feeding practices

Among Afghan refugee children poor weaning practices are a very common cause of malnutrition. Traditionally rural Afghan mothers do not wean their children until more than 9 months of age and sometimes not until 1 or 2 years of age. Commonly, when the mother falls pregnant again she immediately stops breast feeding and weans the child. Initial weaning or supplementary foods are usually nan and tea and the child must compete with

other children for other food.

In the child care clinic, the mother should be advised to introduce supplementary foods at four months of age, after which time breast feeding alone may not be enough for good growth. Acceptable foods include nan, soup, kitchri, mashed potato or banana, fruit juices and tomato juice. The baby should get used to one food for a few days before another is introduced.

Babies should be fed with a clean cup and spoon. Water should not be added as watered down weaning food does not have enough nutritional value and if the water is contaminated then the infant will probably get diarrhoea.

Contaminated weaning foods will give infants diarrhoea. Careful preparation and storage of weaning foods keeps them safe.

These rules should be followed for safe preparation of weaning foods:

-- Wash hands before preparing food.
-- If possible, prepare weaning foods immediately before they will be eaten.
-- Wash all utensils before preparing food.
-- Cook or boil food well.
-- Reheat food thoroughly if it has been kept for more than 2 hours, until it boils. Let it cool before giving it to the infants.
-- Use the cleanest water available for making weaning foods and for washing uncooked foods.

If children are registered in the clinic from birth then it should be easy to see all children at 4 months of age. Those children who fail to come to the clinic can be seen on a home visit. This will ensure that advice concerning supplementary or weaning foods is given at the right time.

After introducing supplementary foods, children should continue to be followed up in the clinic to ensure that they are receiving the correct foods in sufficient quantities and that no other problems are emerging.

Afghan refugee children are often given a poor variety of food. The food that is given is not given frequently enough.

By the age of 8 months, babies should have 4 meals a day including a variety of foods in addition to regular breast feeding. By one year of age the child should be eating all the foods that the family eats. Giving the child the

family food in a mashed form without or before adding hot spices and adding something extra like dark leafy vegetables is best. At this stage the child needs to eat about half the daily food that an adult eats. The child will need to have more frequent meals however, because of the bulkiness of the food and the smallness of its stomach.

In refugee villages there is often a shortage of fuel for cooking and some mothers may offer this as an excuse for not feeding the child. She should be advised to cook for the child every time she prepares tea.

Feeding during and after illness is important for all children. During an illness the child may lose its appetite, particularly during diarrhoea. Mothers may then stop feeding the child. However, in order to prevent nutritional problems and maintain growth, it is important to feed a sick child. In the days after the illness mothers should be advised to give extra food and extra meals to make up for nutritional losses.

3.4 Illness

Recurrent or prolonged illness is also a common cause of poor growth and malnutrition among Afghan refugee children.

The most common illnesses to affect Afghan children are:

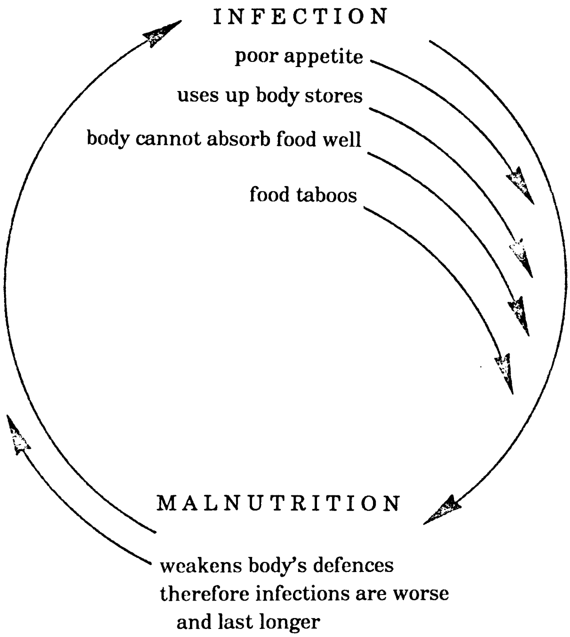
1. Diarrhoea. This is caused by factors such as poor food hygiene (food exposed to flies, prepared with contaminated water or dirty utensils) and lack of hand washing.
2. Respiratory infections
3. Measles
4. Tuberculosis
5. Parasitic infections such as malaria

At each clinic visit the weight should be checked and if growth is poor, then specific questions should be asked about the above illnesses and advice or treatment given. It should be remembered that a child is likely to have on average a poor appetite one day in three as a result of infection, particularly diarrhoea.

The different ways infection can lead to malnutrition are shown in the following diagram. Once the child is malnourished, then he or she is more likely to have more infections which may last longer, be more severe and lead to more malnutrition. It is important that continued feeding during and after

an illness is emphasized to the mother. Early treatment of infections should occur but the prevention of infections through immunization and health education such as advice on safe preparation of weaning foods should be the goal.

FIGURE: THE CIRCLE OF INFECTION AND MALNUTRITION



4. Risk factors for poor growth

In addition to the above factors which affect growth there are several risk factors for poor growth and malnutrition, which health staff should be aware of. They include:

- No breast feeding
- No weaning foods/poor weaning foods after 4 months of age
- Twins
- Premature delivery (before 37 weeks gestation)
- Low birth weight (less than 2.5 kg)
- Previous infant death in family
- Maternal death

and detect and refer high risk cases.

v) **Birth Spacing**

Increasing the interval between births will improve the health of both the mother and her children.

2. Antenatal Care

In a B.H.U. population of 15,000 people, 450 women will be pregnant at any one time, and there will be about 600 deliveries a year. Of these at least two women can be expected to die as a result of the pregnancy or child birth, 50 children to die before their first birthday, 24 of these before 1 month and 9 of these deaths will be from neonatal tetanus.

A large proportion of these deaths are preventable through improved antenatal care and better delivery practices. All pregnant women should be encouraged to come to the BHU for antenatal care.

2.1 Objectives of antenatal care

1. Prophylaxis and treatment of anaemia
2. Prevention of tetanus by giving T.T. vaccination
3. Improve nutrition through health education
4. Identification and appropriate management of high risk pregnancies
5. Arrange for delivery to be supervised by a trained birth attendant.

2.1.1. Prophylaxis and treatment of anaemia

All pregnant women should receive at least one tablet each of ferrous sulphate and folic acid daily, for the full duration of pregnancy. Ferrous sulphate sometimes causes side effects such as nausea and vomiting, diarrhoea and black stools. Side effects are reduced if the tablets are taken after food.

One tablet of ferrous sulphate may be taken for one week and if there

- -- Maternal illness
- -- Orphan
- -- Lack of child spacing and repeated pregnancies
- -- Congenital defect, e.g. cleft palate.

When the growth chart is started at birth, if any of the above factors are present, they should be included under "reasons for special care" on the front of the card. Children with the above risk factors should be seen monthly or more often if growth is not good.

5. <u>Assessment of growth and nutritional status</u>

If a child is growing normally then this is a sign of adequate nutrition and good health. Some time, usually months before a child has obvious signs of malnutrition, the child will have stopped growing.

There are various indicators that may be used to determine growth and nutritional status and if a child is malnourished.

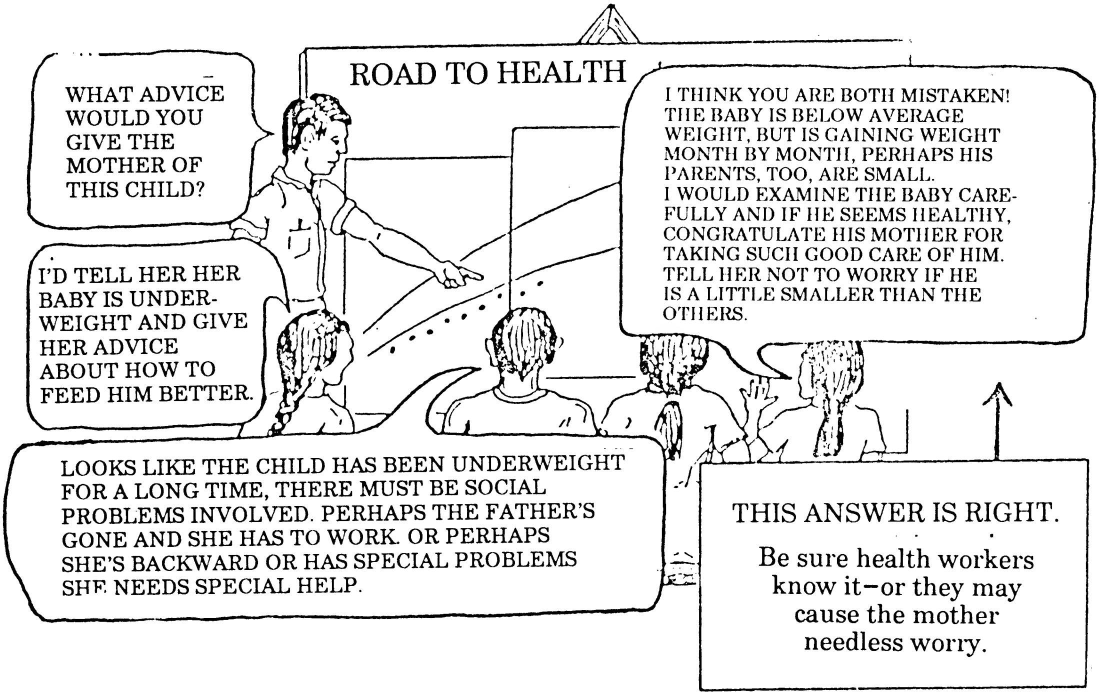
5.1 Weight

A simple and easy way to measure growth is to measure the weight at different times and record on a growth chart. This is the best record of growth.

The average weight of a baby at birth is about 3.5 kg. By 4 months of age the weight should double to about 7 kg and by one year of age it should triple to about 10 kg. From birth to 1 year of age is the period of most rapid growth. From 1 year to 5 years of age the increase in weight is about 2.5 kg per year.

Weight can be an indicator also of a child's nutritional status. However, a single weight measurement is of little value even if compared to the average weight of healthy children of that age. Regular weighing is necessary to see if a child is growing. These weights can be plotted against the child's age on a growth chart and the shape of the growth curve compared to the lines on the graph. (See picture P. 31). The actual weight is less important than the shape of the growth curve. It is possible for a child to have a low weight compared to the reference line on the chart but the shape of the growth curve be normal and the child be growing normally and be healthy.

FIGURE: IMPORTANCE OF DIRECTION OF CURVE



The first sign of all forms of malnutrition is growth failure, which can be seen most clearly on the "growth" chart. Weeks or months before a child looks like a case of malnutrition, he or she will have stopped growing. This can only be determined if children are weighed regularly and their weights are plotted on the growth chart each time they are weighed. If a child grows normally to age 12 months, good feeding practices are established and immunizations are completed, then the risk of malnutrition is low.

The use of growth or weight for age charts is recommended for child care clinics as the best way to monitor growth and nutritional status.

5.2 Height

Change in height or length for children is another measurement of growth. At birth an average baby is 50cm in length, by one year about 72cm and at 5 years about 110cm high. Height is a good indicator of growth particularly in older children.

5.3 Weight for height

By measuring the weight and height of children and referring to special tables, children with malnutrition may be identified. Malnourished children usually have a "weight for height" less than 80%.

Weight for height is also used in nutrition surveys to find out the prevalence of malnutrition in a population at a given time.

5.4 Mid Upper Arm Circumference (MUAC)

During the first year of life the circumference of the upper arm of healthy children increases rapidly as muscle and fat are laid down. Then it remains fairly constant at about 16 cm until the age of 5 years. If the child becomes malnourished the arm becomes thin as muscles and fat are lost. Measuring the mid upper arm circumference can be a useful and quick screening procedure for finding malnourished children in the 1-5 year age group.

If MUAC is used as a screening procedure then a cut off mark of 13.5 cm should be used. The children identified with a MUAC less than 13.5 cm can have their weight and height measured to determine if they are malnourished. Some will not be malnourished i.e. the test is not very sensitive. If 12.5 cm is used as the cut off point, then all the children less than 12.5 cm will be malnourished but some malnourished children will have been missed i.e. the test is not very specific.

5.5 Physical examination

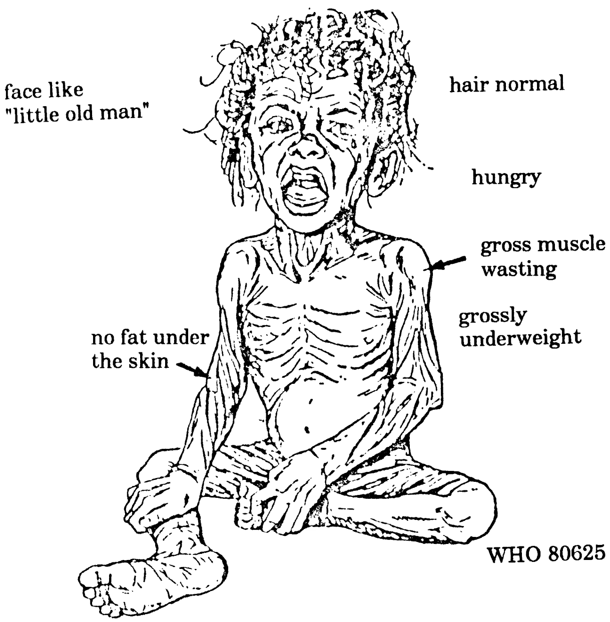
Physical examination is an unreliable indicator of nutritional status, because physical signs of malnutrition appear late. A child may be undernourished and growing poorly but the signs of malnutrition may not have appeared yet.

A child with suspected malnutrition should always be undressed and physically examined.

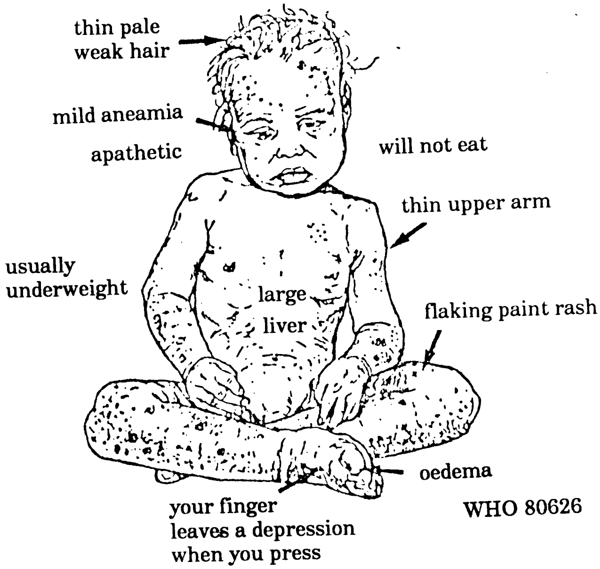
Among Afghan refugee children marasmus is seen often and kwashiorkor is uncommon.

The features of marasmus and kwashiorkor are shown in the figure.

A CHILD WITH MARASMUS



A CHILD WITH KWASHIORKOR



6. Child Care Clinics

6.1 Target group

In a refugee village of 15,000 population approximately 600 children will be less than one year of age, 1,200 less than 2 years of age and 3,000 under 5 years of age.

The main target group for child care clinics are infants from birth to 12 months of age. This is the most vulnerable time of development i.e. the highest death rates occur in this age group. This is also the time when weaning and feeding habits are established and therefore is the time when problems may start which may lead to malnutrition later in the second year of life. The first year of life is therefore the time when preventive activities can have the greatest impact.

The major aim should be to try and recruit all the newborns into the programme as soon after birth as possible. Ideally the health worker should weigh the child at the postnatal check and start the growth chart on the spot. Follow up of mothers who have been registered in the antenatal clinic but whose estimated date of delivery has passed will also help to ensure that no

new borns are lost to follow up. In this way the numbers of children registered in the clinic will slowly increase as more newborns come into the programme. As shortage of skilled female staff is also a problem in the refugee programme, this method has the advantage of giving the staff time to adjust to the work-load.

Children may be discharged from the clinic when they are growing well, healthy, fully immunized and eating the full family diet. In general this should be achieved by two years of age. If a child is not growing well then the child should stay registered with the clinic until the child has been healthy and growing well for three visits.

In many programmes, clinics are targeted at children under 5 years of age. For many of these children the interventions are too late. The critical period to prevent disease and provide appropriate nutrition and health education to the mother is in the first year of the child's life. If all healthy children over two years of age are discharged from the clinic then the staff have more time to spend on under 1 and under 2 year old children.

6.2 Activities of child care clinics

1. Growth monitoring and promotion which includes education on breast feeding, weaning foods and feeding practices.
2. Advice and management for diarrhoea.
3. Promotion of immunization, screening for need for immunization and immunizing children.
4. Early diagnosis and management of acute respiratory infections.
5. Advice and management of other health problems.
6. Nutritional rehabilitation
7. Vitamin A supplementation for children.

6.3 Frequency of visits

Ideally children should attend monthly the clinic, however due to staff constraints, this is not practical in many BHUs.

It is recommended that children attend at least 2 monthly.

6.4 Staffing

Care must be exercised in introducing child care clinics. If existing staff is being used then workloads must be reorganized to take on the additional

programme. An additional literate female health worker will be needed in many BHUs. This worker would have responsibility for managing and recording at the clinics i.e. growth monitoring, interpretation of the growth chart, checking the immunization status of the child and arranging for the tracing of defaulters. Health education and growth promotion can best be done by a female and illiterate women can be trained to do this. Training of all new health staff and retraining of existing staff is essential.

6.5 Motivation

Male community health workers, female health workers, vaccinators and other health personnel must be involved in motivating all refugees to notify a health worker about new births. They should assist in tracing of defaulters and motivate the mothers to bring their children to the clinic regularly.

Opportunities should not be lost in motivating the community: e.g. the FHW at delivery, the CHW on hearing about a birth among his families, the vaccinator during the outreach vaccination programme, and at antenatal clinics.

7. Growth monitoring and promotion

7.1 Introduction

Measuring the growth of a child is a simple way of measuring the health of a child.

Growth monitoring and promotion are strategies which enable health workers to visualize growth and for the mother to receive specific, relevant and practical guidance in ways in which she can act to assure health and continued growth in her child.

It is a preventive and promotive strategy aimed at taking action before malnutrition occurs. It should not be seen as a screening procedure to detect malnourished children.

Growth monitoring and promotion occurs for the benefit of the mother and her child and it is important for the mother to understand the growth chart, to keep it with her and to be fully informed of the changes in the baby's growth.

7.2 Growth monitoring

Growth monitoring is only worthwhile if it is followed with growth promotion. Weighing and filling in a growth chart is not an end in itself.

The growth chart should be kept by the parents of the child and brought to the BHU every visit. However it is necessary to explain the significance of the information on the chart first. Once parents understand the importance of the chart, they will feel more involved and responsible for assuring the child's adequate growth. All community health workers should be aware of the importance and the use of growth charts so that they can motivate refugees to allow mothers to attend child care clinics and assist parents in their understanding of growth charts.

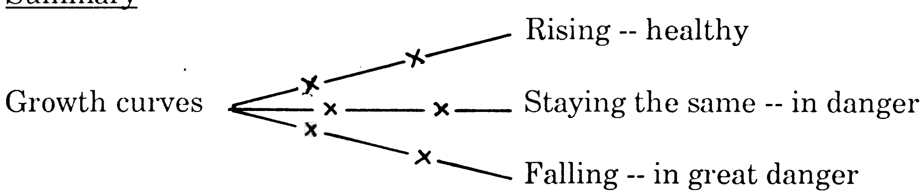
A system of registration for children should be kept at the BHU. The register should include the name of the malik and/or CHW next to the child's name so that lost children can be found. The register should include also columns for the due date of the next check, to ensure that children who default the clinic can be followed up.

7.3 Interpretation of growth chart

The direction or angle of the growth line is more important than the position of the dots on the graph. If the line is upwards and parallel to the line on the chart, then the growth is satisfactory. (Refer figure, p. 26).

If the line is flat or falling, that is the weight was the same or less than the previous occasions, then the child is not growing and is in danger.

Summary



7.4 Growth promotion

7.4.1 Growth promotion is the key intervention which will have an impact on the nutritional status of all children both healthy and malnourished. As stated before it is a way for the mother to receive 'specific, relevant and practical guidance'. It can be used without growth monitoring.

To give effective nutrition advice to any mother it is necessary to first find out about the health of the child and what he or she is being fed. A series of questions to ask the mother are listed below. The advice given to the mother should be based on the answers given to the questions and should be specific, simple and practical.

Q.1 IS THE CHILD BEING BREAST FED AND HOW OFTEN?

Breast feeding or lactation failure is often a cause of growth failure. It is usually due to lack of frequent feeding. Re-establishing lactation is most important. The following advice should be given:

1. The baby must suck frequently. The mother must put the baby to the breast for about 5 minutes every 2-3 hours even if there is only a small amount of milk.

2. The mother should:
    - -- drink plenty of fluids, atleast 8 glasses per day.
    - -- eat extra food.
    - -- not give unnecessary fluids to the baby before 4 months of age.

In the BHU it is advisable to give the mother a drink, ask her to wait for one hour and then put the baby to the breast. Often lactation will be present.

Q.2 IS BOTTLE FEEDING EVER USED?

Bottle feeding should be discouraged. The health worker should promote use of cup and spoon and explain that the cup and spoon must be cleaned each time before use. (Refer 3.2. p. 26).

Q.3 WHAT FOOD IS THE CHILD EATING?
Q.4 HOW MANY TIMES A DAY IS THE CHILD BEING FED?

Advice should be based on what the child should be eating according to section 3.3.

If a child is growing poorly then the following instructions may also be given:

-- Give more of the food you are already giving.
-- Increase the number of meals per day.

-- Increase the variety of food being given.
-- Add edible oil to the diet if not already present [increase energy content]

It is important that the nutritional advice be repeated on a number of occasions. The child should return regularly to the clinic for weighing and if the child is gaining weight then the mother should be complimented. The male and female health workers can be helpful in following up children and giving extra nutritional advice.

Q.5 IS THE CHILD SICK OR HAS BEEN SICK?
Q.6 WHAT DO YOU FEED THE CHILD WHEN HE/SHE IS SICK OR HAS DIARRHOEA?

Very often children do not grow well due to a combination of both poor feeding and frequent infections [refer sections 3.3 and 3.4]. Encourage the mother to feed a sick child frequently and to give additional fluids.

If the child has been sick for several days then the child should be examined by a doctor or LHV, a diagnosis made and appropriate treatment given.

7.5 Prime Messages

The advice given to the mother for growth promotion should be based on her responses to the questions given in 7.4. Prime messages for child growth and breast feeding have been identified and are listed below. Health education materials are being developed based upon these messages for use in child care clinics.

Child Growth

The prime messages are:

-- Breast milk alone is the best possible food for the first four months of the child's life.

-- By the age of 4 months, the child needs other foods in addition to breast milk.

-- By the age of one year, the child needs to eat at least 4 times a day.

-- By the age of one year, the child should eat all the foods the family eats, made soft.

-- During and after an illness a child needs extra food and extra meals.

-- Children between the ages of birth and upto 2 years of age should be weighed regularly. If there is no weight gain for 2 months something is wrong.

Breast Feeding

-- Breast-milk alone is the best possible food and drink for a baby in the first 4 months of life.

-- Babies should start to breastfeed immediately after birth.

-- Breastfeeding should continue upto 2 years of age.

-- Never use bottles as bottle feeding can lead to serious illness and death.

-- Continue breastfeeding during the next pregnancy.

-- A mother who is breastfeeding should eat for 2 persons.

-- Breastfeeding should be stopped slowly.

8. <u>Management of Malnutrition</u>

8.1 Finding the cause of the Malnutrition

In order to manage a child with malnutrition, it is important to determine why the child is malnourished. The health worker should proceed through the same questions as given in section 7.4.1. p. 36.

Is there a nutritional problem?

Is the child sick?

Or both?

Often there is more than one factor involved but it is important to try

are no side effects then two tablets may be taken. If there are clinical signs of anaemia [pale conjunctivae or spooning of nails] then up to 3 tablets may be taken daily.

Tablets may be provided from the BHU or through a community out-reach system. There is a risk of moderate or severe allergic reactions to intra-muscular injections and these should never be used in the BHU.

The duration of treatment with iron is very important and iron must be taken daily over the whole pregnancy and after the birth for maximum benefit.

2.1.2 Prevention of tetanus by tetanus toxoid vaccination

The schedule for Tetanus Toxoid (T.T) vaccination for women aged 15-45 years is as follows:

TT 1	At first contact, or as early as possible during pregnancy.
TT 2	4 weeks after TT 1.
TT 3	6 to 12 months after TT 2, or during subsequent pregnancies.
TT 4	1 to 3 years after TT 3, or during subsequent pregnancy.
TT 5	1 to 5 years after TT 4, or during subsequent pregnancy.

All female staff working at the BHU should be able to give an intra-muscular injection of tetanus toxoid. All health staff should be involved in informing and motivating the community about the importance of vaccination.

2.1.3 Improved nutrition through health education

Pregnant women need extra food. The mother should be advised to eat enough food for herself and her baby.

A balanced diet should be advised with emphasis on a variety of food and foods rich in iron. Iron rich foods include green vegetables, eggs and meat.

Fruits rich in vitamin C enhance the absorption of iron.

2.1.4 Identification of high risk pregnancies

High risk pregnancies include the following:

1. Past history of:

to determine the cause or causes and then to make the management and advice appropriate for the child.

The child should be examined by a doctor to determine whether an infection is present and signs of malaria or tuberculosis should be specifically looked for. Worms can contribute to malnutrition and it is good policy to treat all malnourished children for worms.

8.2 Nutritional Rehabilitation

After the health worker has asked the questions to determine whether there is a nutritional problem and/or an illness, he or she will have a good understanding of the mother's feeding practices and the likely cause[s] of the malnutrition.

The health worker can then give appropriate advice to the mother on how to modify and improve the diet of the child as per section 7.4. This is called nutritional rehabilitation.

Some common instructions will be:

-- reintroduce breast feeding.
-- increase frequency of breast feeding.
-- give more of the food you are already giving.
-- increase the number of meals per day.
-- increase the variety of foods being given.
-- add edible oil to the diet if not already present.

It is important to repeat the nutrition advice on a number of occasions. The child should return regularly to the clinic for weighing and if the child is gaining weight the mother should be complimented. The male and female health workers can be helpful in following up the child and giving supplementary nutritional advice.

For all malnourished children the lady health visitor or her assistant should do a home visit as this is the best way to assess the factors contributing to the child's malnutrition. For example, the health worker can assess whether poor sanitary conditions in the home or poor food hygiene are contributing to the malnutrition. The home visit is the most effective way to establish a good relationship with the mother and to help her.

The health worker should be polite, supportive and give simple and

practical advice rather than negative advice such as 'don't do ....'. The advice should always be appropriate, for example only locally available foods that the family can afford or grow themselves should be advised. The home visits should be repeated; the frequency depending on the weight gain of the child.

The father should be advised by the LHV or doctor as well, since they control the money and do the purchasing of the food.

Advice can be given for a kitchen garden if this is practical.

8.3 Supplementary feeding programmes

8.3.1 There are traditionally two different roles for supplementary feeding programmes in refugee programme. These are:

1) a short term emergency measure for targeting food during the emergency phase of an influx of refugees.

2) long term, for the prevention and management of malnutrition.

8.3.2 Short term: emergency supplementary feeding programmes

Supplementary feeding programmes may be organized to provide extra food when:

- an influx of refugees has occurred and malnutrition is documented, with more than 10% of children under 5 years of age malnourished (<80% Wt/Ht).

- the nutritional needs of children or other vulnerable groups are not being met and there is a lack of food.

These programmes must be based on the active identification and follow up of those determined to be malnourished or vulnerable. The method of food distribution will depend on a number of factors including availability of personnel, logistical support and supplies. Either dry take home rations are provided or on site feeding with wet rations occurs.

8.3.3 Long term supplementary feeding programmes

These programmes aim primarily to prevent and manage malnutrition.

Their role as an appropriate and effective nutrition intervention has not been established.

Within the Afghan Refugee Health Programme, nutrition surveys have been conducted on a number of occasions between 1984 and 1988. These surveys have shown malnutrition rates (<80% Wt/Ht) of less than 5% for children under 5 years of age. Studies on the cause of malnutrition in Afghan refugee children have not found deficiency of food to be an important factor. The causes have been largely poor nutritional practices and bottle feeding. In Baluchistan in one study, over 70% of children admitted to a supplementary feeding programme had been bottle fed.

In the Afghan Refugee Health Programme, supplementary feeding programmes are not indicated except possibly in emergency situations. Nutrition rehabilitation as described in section 8.2 is recommended to manage malnourished children. Long term supplementary feeding programmes largely address the wrong issues.

Some reasons why they are not considered appropriate are:

- poor acceptability to the community [shown through poor compliance].
- disruptive of family life.
- the responsibility for feeding is taken away from the family.
- dependency is created.
- possibility of cross contamination and infection.
- few children less than 2 years reached.
- expensive on resources both staff and financial
- compliance/attendance is poor.

9. <u>Vitamin A Supplementation</u>

9.1 What is vitamin A?

Vitamin A is an essential nutrient which cannot be made by the body and must come from food. Liver, dairy products, dark green leafy vegetables, carrots and fruits such as mangoes and yellow marrows are rich in Vitamin A.

When insufficient vitamin A is eaten, the body becomes depleted and the effects of vitamin A deficiency develop, of which the most important is eye damage.

9.2 Preventing Vitamin A Deficiency

9.2.1 Provide food and nutrition education

A diet with enough Vitamin A prevents Vitamin A deficiency problems.

- Encourage breast feeding:
  Babies who are breast fed by mothers, who have adequate levels of Vitamin A, are protected from Vitamin A deficiency.

- Encourage everyone in the community to eat a diet containing sufficient Vitamin A. Dairy products and liver are rich in Vitamin A as are green leafy vegetables, carrots, mangoes, yellow bananas and sweet potatoes.

9.2.2 Vitamin A supplementation

The administration of large doses of Vitamin A can prevent eye diseases and improve overall health in communities which are considered to be at high risk for Vitamin A deficiency.

Capsules coated with gelatin contain 200,000 I.U. Vitamin A. The capsules should preferably be kept below 30°C but not frozen.

Vitamin A prevention schedule:

Mothers: 200,000 I.U. Vitamin A once at delivery or during the next two months. Levels of Vitamin A in breast milk will be increased for several months (refer I, 4.8. p. 17).

Children 6-11 months: 100,000 I.U. Vitamin A orally. Measles immunization is a good time to give a routine dose. Supplementation starts after 6 months because severe Vitamin A deficiency is rare in the first months of life.

Children 1-2 years: 200,000 I.U. Vitamin A orally once.

Record the date of giving Vitamin A on the EPI card.

9.3 Vitamin A deficiency

Vitamin A deficiency results in eye damage called xerophthalmia. The

stages are night blindness, conjunctival xerosis, Bitot's spots, corneal xerosis and keratomalacia.

Vitamin A must be given if any of these stages are present.

A dose of Vitamin A should also be given to every child with measles.

Vitamin A treatment schedule

Over 1 year of age:*

Immediately on diagnosis	200,000 I.U. Vit A orally
The following day	200,000 I.U. Vit A orally
1-4 weeks later	200,000 I.U. Vit A orally

*Under 8 kg of body weight, give 100,000 I.U.

10. Conclusion

The child care guidelines have focused largely on organization of child care clinics and growth monitoring and promotion. Revised or new guidelines on EPI, acute respiratory infections, control of diarrheal diseases will be distributed in 1989 and 1990. While these interventions will be presented separately in the guidelines, in the clinic or in the community they should always be integrated. Immunization records should be checked every time a mother or child is seen, use of ORT should always be reinforced, danger signs of respiratory illnesses should be taught and the teaching of proper hygiene should occur whenever the opportunity exists.

-- Caesarean section*
-- Previous stillbirth
-- Major medical illness (hypertension, cardiac disease*, T.B., diabetes)
-- Retained placenta
-- Postpartum haemorrhage

2. Present pregnancy:
-- Bleeding in the second half of pregnancy* (placental abruption or placenta praevia)
-- Multiple pregnancy
-- Abnormal lie of foetus in the ninth month*
-- Hypertension
-- Pre-eclamptic toxemia*
-- Diabetes

*Pregnant women with these risk factors should always be delivered in hospital.

These patients should be assessed frequently by an LHV or M.O. during the antenatal period and referred to hospital if indicated.

2.1.5. Arrange for delivery to be supervised by a trained birth attendant

Every pregnant woman should be put in contact with a trained person to assist her at delivery.

If a woman is in her ninth month of pregnancy and a trained person is not available, then she may be given a razor blade and cord tie along with advice about sterilization of equipment and the importance of cleanliness during delivery.

2.2 Use of medicines during pregnancy

Pregnant women should be advised to avoid all tablets, syrups and injections unless they are prescribed by BHU staff.

The following medicines should not be prescribed in pregnancy:

Drug	Adverse Effect
Aspirin	Increases the risk of bleeding. Delayed onset and

	increased duration of labour. Avoid during the last month of pregnancy.
Tetracycline	Dental discoloration of fetus. Liver damage to mother with large doses.
Trimethoprim	Possible fetal abnormalities.
Streptomycin	Hearing loss in baby.
Primaquine	Neonatal haemolysis and jaundice.
Vitamin A	Possible fetal abnormalities if more than 10,000 I.U. per day is given.
Chlorpropamide	Fetal hypoglycemia, poor brain growth.

Copies of this list should be displayed in the offices of the MO, LHV and dispenser in all BHUs.

2.3 Frequency of antenatal checks

To achieve the above objectives, under normal circumstances it is necessary for every pregnant woman to attend the BHU two or three times during pregnancy, twice for TT vaccine and iron/folic acid tablets and once in the last month of pregnancy to exclude any complications and ensure the mother is safe for home delivery. The mother may attend more frequently to collect iron/folic acid tablets or these may be distributed through a community programme.

Visits every week or fortnight are not necessary or possible given the limited number of female staff available. However, high risk cases, including those with a poor obstetric history or abnormalities identified during the first visit should be seen more frequently (Section 2.1.4.).

2.4 The antenatal visit

Below are a list of minimum requirements for routine screening at antenatal visits. Most of these procedures can be performed by any trained female health worker and problem cases then referred onto the LHV or M.O.

2.4.1 HAVE YOU HAD T.T. BEFORE?

Check vaccination card. If no previous TT, give one dose at first visit and second dose a month later. If 2, 3 or 4 doses have been given previously, give one booster dose. Booster doses are not required after a full course of five TT injections have been completed (refer section 2.1.2.).

2.4.2 WHAT FOOD ARE YOU EATING AND HOW OFTEN?

Advise to eat more of a mixed diet including vegetables, milk, eggs, meat and fruits containing vitamin C alongwith the normal family diet.

2.4.3 HAVE YOU HAD ANY PROBLEMS WITH PREVIOUS PREGNANCIES?

Women with a bad obstetric history (Section 2.1.4.) for example bleeding after delivery (post partum hemorrhage), retained placenta, stillbirth and cesarean section require more frequent antenatal visits and should be seen by the LHV or MO. The LHV or MO should assess the history and advise the woman whether any special measures are required. If hospital care is needed or delivery at a hospital is indicated, she should arrange this.

2.4.4 DO YOU FEEL YOUR BABY MOVING?

The mother will feel the baby moving after the fifth month. If the mother is more than five months pregnant and has not felt movements or has stopped feeling movements, then refer the woman to the LHV or M.O.

If the LHV or M.O. is unable to feel any fetal movements on physical examination or to hear the fetal heart, they should ask the woman to come back one month after the fetal movements stopped to be examined again. The baby may be dead but there is minimal risk of complications in the first month after fetal death, but after this time the woman should be referred to a hospital. Most women spontaneously abort before this time.

2.4.5 DO YOU HAVE BURNING OR FREQUENCY OF PASSING URINE?

Urinary tract infections are common during pregnancy and any woman with symptoms suggestive of infection such as burning or frequency of passing urine should be referred to the LHV.

The LHV or M.O. should advise the woman to drink plenty of fluids and prescribe an antibiotic. **Ampicillin** (250mg four times/day) for ten days is

the first choice. If the patient is allergic to penicillin then **nitrofurantoin** (100mg four times/day) or **Nalidixic acid** (500mg four times/day) for ten days may be given. A repeat visit to the BHU after finishing treatment is necessary to check that symptoms are no longer present.

2.4.6 DO YOU HAVE BLEEDING FROM THE VAGINA?

If the woman has small amounts of bleeding in early pregnancy (before fetal movements start), she should be advised to rest in bed for a few days. If the bleeding does not stop, she should be referred to the LHV.

The LHV should assess the patient. If the bleeding is heavy and with either clots or cramps then the abortion is probably inevitable and the patient should be referred to hospital for dilatation and curettage (D&C). Signs of infection include fever and offensive lochia which should be treated with **ampicillin** (250mg four times/day) <u>and</u> **metronidazole** (200mg four times/day) for 10 days as well as referral for a D&C.

If a woman has bleeding in the second half of pregnancy, then she is suffering from a placental abruption or placenta praevia and she should be referred to hospital.

2.4.7. DO YOU HAVE BAD HEADACHES WITH VOMITING?

If a pregnant woman has these symptoms, she may have hypertension or pre-eclamptic toxemia (PET). She should be referred to the LHV or M.O. for blood pressure (B.P.) check.

In pregnancy a B.P. of 140/90 or lower is normal. If either the systolic <u>or</u> diastolic B.P. is higher then the B.P. is high.

1. If the B.P. is high then the mother should rest for ten minutes and the B.P. checked again. This will usually exclude a high B.P. caused by stress, anxiety or exercise.

2. If the B.P. is high after 10 minutes rest, then the urine should be tested for protein.

3. If urine is positive for protein, then the diagnosis is PET. Edema of the face, hands and feet will usually also be present. There is a high risk of fits and maternal death in PET and all these patients should be referred to hospital. If referral is not possible then the M.O. may explain the risks to the family and

then try to control the blood pressure, using **chlorpromazine** as a sedative and **methyl dopa** in addition, if necessary.

4. If protein is not present in the urine, then the diagnosis is hypertension. If the diastolic B.P. is 90-100 or systolic B.P. is more than 140 then the patient should be advised for bed rest, a salt free diet and checked on a weekly basis.

5. If protein is not present in the urine and the diastolic B.P. is more than 100 then the M.O. may prescribe **chlorpromazine** and **methyl dopa,** in addition, if necessary.

6. Bed rest is the single most important treatment in cases of hypertension. Hypertension causes reduced placental blood flow which results in poor fetal growth and sometimes fetal death. These risks are reduced with bed rest. Lowering the blood pressure with medicines will not improve the placental blood flow though it will reduce the risk of complications for the mother.

This management is summarized in Table 1, page 9.

2.4.8 WHO IS YOUR LOCAL FHW?

The health worker should identify the closest female health worker or midwife to the pregnant woman. The name of the FHW should be recorded on the antenatal card to assist follow up. If a woman is in the ninth month of pregnancy and there is no FHW, then the mother may be given a new razor blade and cord tie along with advice about sterilization of equipment and cleanliness during labour.

2.4.9. ARE YOU TAKING IRON TABLETS

All pregnant women should take at least one tablet each of ferrous sulphate and folic acid daily during pregnancy (see section 2.1.1.). BHU staff should give enough tablets to last until the next due visit or arrange for the tablets to be given through a community health worker. Mothers should be advised to take the tablets after meals and warned that their stools may become black.

2.4.10. ARE YOU TAKING ANY OTHER MEDICINES?

A pregnant woman should be advised to avoid all medicines unless prescribed by the BHU staff, as they may be dangerous for her or her baby (refer section 2.2.).

<u>Table 1</u>

B.P. 140/90 or greater
Rest for 10 minutes, then check B.P.

↓

B.P. high after rest,
then test urine for protein.

Urine positive for protein.	Urine negative for protein.
<u>PRE-ECLAMPSIA</u>	<u>HYPERTENSION</u>
Refer to hospital if possible OR Treatment by M.O. give advice -- bed rest -- salt free diet Medication -- chlorpromazine -- methyl dopa	Treatment at BHU 1. Diastolic B.P. 90-100 or Systolic B.P. 140+ give advice -- salt free diet -- bed rest check weekly 2. Diastolic B.P. 100+ give advice -- salt free diet -- bed rest medication -- chlorpromazine -- methyl dopa check at least weekly.

2.5 **Examination**

This can be performed by a trained female worker like a clinic dai or FHW and the more complicated cases referred to the LHV.

1. <u>Check breasts:</u> Look for inverted nipples and give advice to the woman on how to correct these.

2. <u>Look for oedema of the feet, hands and face:</u> If these are present in 2 or more places, the LHV should check the BP (diastolic over 100 is abnormal) and test urine for protein. (Refer to section 2.4.7.).

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